

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M118888A Sm. Tank	Client:	Alaskan Copper Works
Date Received:	03/06/08	Project:	PO M118888, F&BI 803057
Date Extracted:	03/10/08	Lab ID:	803057-01 x10,000
Date Analyzed:	03/13/08	Data File:	803057-01 x10,000.027
Matrix:	Aqueous	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower	Upper
Germanium	99	Limit:	Limit:
		60	125

Analyte:	Concentration ug/L (ppb)
Chromium	7,570,000
Nickel	11,500,000
Copper	6,340,000
Zinc	90,300

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M118888B Lg. Tank	Client:	Alaskan Copper Works
Date Received:	03/06/08	Project:	PO M118888, F&BI 803057
Date Extracted:	03/10/08	Lab ID:	803057-02 x10,000
Date Analyzed:	03/13/08	Data File:	803057-02 x10,000.028
Matrix:	Aqueous	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower	Upper
Germanium	100	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Chromium	20,700,000
Nickel	18,800,000
Copper	2,670,000
Zinc	85,900

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Alaskan Copper Works
Date Received:	Not Applicable	Project:	PO M118888, F&BI 803057
Date Extracted:	03/10/08	Lab ID:	I8-078 mb
Date Analyzed:	03/13/08	Data File:	I8-078 mb.019
Matrix:	Aqueous	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower	Upper
Germanium	92	Limit:	Limit:
		60	125

Analyte:	Concentration ug/L (ppb)
Chromium	<1
Nickel	<1
Copper	<1
Zinc	<1

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Analysis For Total Metals By EPA Method 200.8

Client ID:	M118888A Sm. Tank	Client:	Alaskan Copper Works
Date Received:	03/06/08	Project:	PO M118888, F&BI 803057
Date Extracted:	03/10/08	Lab ID:	803057-01 x10,000
Date Analyzed:	03/11/08	Data File:	803057-01 x10,000.032
Matrix:	Aqueous	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower	Upper
Germanium	96	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)

Iron (screen)	45,900,000
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M118888B Lg. Tank	Client:	Alaskan Copper Works
Date Received:	03/06/08	Project:	PO M118888, F&BI 803057
Date Extracted:	03/10/08	Lab ID:	803057-02 x10,000
Date Analyzed:	03/11/08	Data File:	803057-02 x10,000.033
Matrix:	Aqueous	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower	Upper
Germanium	96	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Iron (screen)	70,600,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Alaskan Copper Works
Date Received:	Not Applicable	Project:	PO M118888, F&BI 803057
Date Extracted:	03/10/08	Lab ID:	I8-078 mb
Date Analyzed:	03/11/08	Data File:	I8-078 mb.008
Matrix:	Aqueous	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	hr

Internal Standard:	% Recovery:	Lower	Upper
Germanium	100	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)

Iron (screen)	<250
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/08

Date Received: 03/06/08

Project: % of Acid, PO M118888, F&BI 803057

Date Analyzed: 03/10/08

**RESULTS FROM THE ANALYSIS OF AQUEOUS SAMPLES
FOR PERCENT ACID**

<u>Sample ID</u>	<u>Percent Acid</u>
Laboratory ID	
M118888A Sm. Tank	5.2
803057-01	
M118888B Lg. Tank	8.4
803057-02	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/08
Date Received: 03/06/08
Project: % of Acid, PO M118888, F&BI 803057
Date Extracted: 03/10/08
Date Analyzed: 03/10/08

**RESULTS FROM THE ANALYSIS OF AQUEOUS SAMPLES
FOR SPECIFIC GRAVITY
@ 15.56 °C**

Sample ID
Laboratory ID

Specific Gravity

M118888A Sm. Tank
803057-01

1.14

M118888B Lg. Tank
803057-02

1.23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/08

Date Received: 03/06/08

Project: % of Acid, PO M118888, F&BI 803057

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AQUEOUS SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 803018-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	ug/L (ppb)	4.35	5.82	29 a	0-20
Nickel	ug/L (ppb)	9.18	9.45	3	0-20
Copper	ug/L (ppb)	9.61	9.57	0	0-20
Zinc	ug/L (ppb)	64.2	62.3	3	0-20

Laboratory Code: 803018-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Chromium	ug/L (ppb)	20	4.35	96 b	50-150
Nickel	ug/L (ppb)	20	9.18	88 b	50-150
Copper	ug/L (ppb)	20	9.61	89 b	50-150
Zinc	ug/L (ppb)	50	64.2	90 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	ug/L (ppb)	20	99	70-130
Nickel	ug/L (ppb)	20	95	70-130
Copper	ug/L (ppb)	20	99	70-130
Zinc	ug/L (ppb)	50	90	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/08

Date Received: 03/06/08

Project: % of Acid, PO M118888, F&BI 803057

**QUALITY ASSURANCE RESULTS
FROM THE ANALYSIS OF AQUEOUS SAMPLES
FOR PERCENT ACID**

Laboratory Code: 803057-01 (Duplicate)

Analyte	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Percent Acid	5.2	5.3	2	0-20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/18/08

Date Received: 03/06/08

Project: % of Acid, PO M118888, F&BI 803057

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF AQUEOUS SAMPLES
FOR SPECIFIC GRAVITY
@ 15.56 °C**

Laboratory Code: 803057-01 (Duplicate)

Analyte	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Specific Gravity	1.14	1.14	0	0-2

Data Qualifiers & Definitions

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- A1 - More than one compound of similar molecule structure was identified with equal probability.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte indicated may be due to carryover from previous sample injections.
- d - The sample was diluted. Detection limits may be raised due to dilution.
- ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.
- dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.
- fb - The analyte indicated was found in the method blank. The result should be considered an estimate.
- fc - The compound is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.
- ht - The sample was extracted outside of holding time. Results should be considered estimates.
- ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j - The result is below normal reporting limits. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.
- jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the compound indicated is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.
- ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The pattern of peaks present is not indicative of diesel.
- y - The pattern of peaks present is not indicative of motor oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

March 18, 2008



INVOICE #08ACU0318-2

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project % of Acid, PO M118888, F&BI 803057 - Results of testing requested by
Gerry Thompson for material submitted on March 6, 2008.

2 sample analyzed for Total Chromium, Copper, Nickel and Zinc by Method 200.8 @ \$80 per sample	\$ 160.00
2 samples analyzed for Specific Gravity @ \$25 per sample	50.00
2 samples analyzed for Percent Acid Content @ \$50 per sample	100.00
2 samples analyzed for Total Iron by Method 200.8 @ \$30 per sample	60.00
Rush Charges (4 day) 60% of \$370.00	<u>222.00</u>
Amount Due	\$ 592.00

FEDERAL TAX ID #

(b) (6)

803057

SAMPLE CHAIN OF CUSTODY

ME 3/6/08

AIS

Send Report To

Gerald Thompson

Company

ALASKAN Copper Works

Address

628 S. Hancock St

City, State, ZIP

Seattle WA 98134

Phone #

206-571-6033

Fax #

206-382-4309

SAMPLERS (signature)

PROJECT NAME/NO.

% of Acid

PO #

M118888

REMARKS

Page # _____ of _____

TURNAROUND TIME

☐ Standard (2 Weeks)☒ RUSH ~~ASAP~~

Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Dispose after 30 days☐ Return samples☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	% of Acid	Spec. Gravity	CL-Cu-Mn-Zn	FE	
M118888A	01	3/6/08	1:00	HNO3	1							X	X	X	X	
Sm. Tank																
M118888B	02															
lg Tank		3/6/08	1:00	HNO3	1							X	X	X	X	

Friedman & Bruya, Inc.

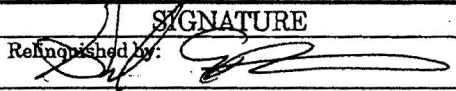
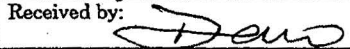
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Gerald Thompson	ACW	3/6/08	2:00pm
Received by: 	David	FBI	"	4
Relinquished by:				
Received by:				

Samples received at 27°C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

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Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

March 18, 2008

Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on March 6, 2008 from the % of Acid, PO M118888, F&BI 803057 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
ACU0318R.DOC